

Gateway to Student Success: Convertible Notebook Laptops in the Natural Resources Classroom and the Field

By
Jeanne L. Pfander
and Dr. Jeffrey Fehmi
University of Arizona

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Abstract

Many readers continue to prefer print to electronic when it comes to reading books or extended amounts of text. A project is in progress during Spring semester 2008 to investigate whether laptop use will encourage e-book readership and at the same time enhance the learning experience in the classroom and the field.

Librarian/Faculty Partnership

The librarian in this project is partnering with a professor teaching an upper-division course Vegetation Management of Wildlands (Range Management 446/546).



**Class field trip to Audubon Research Ranch in
Southeastern Arizona, February 2008**

College of Agriculture and Life Sciences-
THE UNIVERSITY OF ARIZONA

Vegetation Management of Wildlands

RA M 446/546 Spring 2008, 4 units

Instructor: Jeff Fehmi, Bio Sci E. 212, 621-7268, jfehmi@email.arizona.edu

Office Hours: Monday and Wednesday 11:00-12:00 am (subject to change). Other times by appointment.

TA: N/A

Class Schedule:	Lectures:	Monday and Wednesday	10:00-10:50	BIO E 314
	Lab:	Friday	12:00-5:50	BIO E 124

NOTE: Labs usually travel to a field site for some or all of the lab period. Labs should end as scheduled but delays may occur in return travel.

Course Web Page: go to <http://d2l.arizona.edu/>, log in and go to RA M446_546 SP08 001 Fehmi. This will have the most up-to-date information about the course and access to the D2L page for this class will be required for successful course completion.

Course Description: In this course students will learn the techniques for managing vegetation on rangelands. We will emphasize selecting and applying appropriate methods for meeting specified land management goals. The course is combination of lectures and field trips that give both a theoretical underpinning as well as practical application in vegetation management.

Desired Learning Outcomes:

At the end of the course, students should be able to:



**Students talking with Audubon Research Ranch Director
February 2008**

Gateway funding

- Strategic partnership: University of Arizona and Gateway Companies, Inc.
- Includes corporate funding program
- Proposals are solicited twice a year
- UA Corporate Relations Committee reviews and makes recommendations on finalists
- Gateway selects proposals for funding that demonstrate need, innovation, accountability and alignment with Gateway's strategic priorities

Gateway UA projects 2007

- Disability Resource Center: \$25,500 for a new specialized retention project for students with disabilities, offering personal notebooks and appropriate assistive technology
- College of Engineering: \$34,960 to use Gateway laptops to train faculty on the use of the Tablet PC in the classroom
- Office of Student Computing Resources Technology Refresh Bank: \$25,000 to provide support to units needing to refresh student computing labs
- **UA Libraries: \$31,730 to use Gateway notebooks to encourage and track e-book readership**

Gateway E-295C Convertible Notebook

- Sixteen Gateway E-295C Convertible Notebook laptops purchased with Gateway grant funds.
- Twelve students chose to accept a semester-long loan of laptops.
- Professor and librarian each also have one of the same laptops.
- At end of the project, professor and librarian will retain their laptops.
- Students will return laptops at end of semester to UA Libraries Laptop Loan service.



The E-295C Convertible Notebook converts from notebook mode to tablet mode and allows for both keyboard and digital pen input.



- 3 USB ports
- 1 network port
- 1 modem port
- 1 external monitor port
- IEEE 1394 (firewire) port
- 1 PC card slot
- 1 media card slot
- 1Gb RAM
- 80Gb hard drive

Tablet Software

Assistive Technology

- Accessibility Wizard
- Magnifier
- Narrator
- On-Screen Keyboard
- Utility Manager
- Windows Journal Viewer

Browsers

- Internet Explorer
- Mozilla Firefox

CD Burning Software

- Nero Express
- Nero StartSmart

File Transfer

- Putty
- WinSCP
- UTF-8 TeraTerm Pro

Microsoft Office 2007 with compatibility pack but no Language Packs

- Excel 2007
- PowerPoint 2007
- Word 2007
- Publisher 2007
- InfoPath 2007
- Access 2007
- OneNote 2007

Tablet Software, Continued

Reference

- RefWorks Write-n-Cite
- CmapTools
- IHMCCmapTools-Help.pdf

Tablet PC Software

- Equation Writer
- Explore the Education Pack
- Explore the Experience Pack
- Get Going with Tablet
- GoBinder Lite
- Hexic Deluxe
- Ink Flash Cards
- OneNote 2007
- Sticky Notes
- Tablet PC Tutorials
- MS Windows Journal Viewer

Viewing and Listening Software

- Adobe Reader 8.1.1
- GSView 4.8
- iTunes (latest)
- QuickTime (latest)
- RealPlayer (latest)
- Sound Recorder
- WebEx Player
- WebEx Recorder
- Winamp (latest)
- PowerDVD
- MS Windows Journal Viewer
- Windows Media Player 11
- Volume Control

Tablet Software, Continued

Print Client(s)

Library Pharos Printers

- Black & White on 3 Floor Lib on TSUNAMI (Main)
- Black & White on INVERSION (Main IC)
- Black & White in Fine Arts on TSUNAMI (Fine Arts)
- Black & White Printer in CCP on TSUNAMI (CCP)
- Black & White Printer in SEL on TSUNAMI (Science)
- Color on INVERSION (Main IC)
- Color Printer in Fine Arts on TSUNAMI (Fine Arts)

Utilities

- UA VPN Client
- Sophos
- TextPad
- Calculator
- Google SketchUp
- DropStuff
- StuffIt Expander
- Windows Explorer
- WordPad

Notebook Orientation & Support

Students received training on the Gateway Notebook at the beginning of the semester from the librarian, UA Libraries IT staff and Materials Access Team (circulation) staff.

Ongoing technical support is provided by the Libraries and the University's Office of Student Computing Resources (OSCR) labs.

Library Instruction

The librarian also provided instruction in subject-related library research, e-book interface training and training in RefWorks bibliographic management software.

Students were given an assignment to create a bibliography on a topic of their choice.

Expected Benefits for Students

- 1) Versatile Gateway E-295C Convertible Notebooks for reading e-books and completing course assignments
- 2) New ways to take/share notes and data
- 3) Increased awareness of library services and resources

Expected Benefits for Professor and Librarian

- 1) Versatile Gateway E-295C Convertible Notebooks for reading e-books
- 2) New ways to take/share notes and data and create documents
- 3) Opportunity to learn new instructional technologies and methodologies

Expected Benefits for the UA Libraries

- 1) Increased understanding of how to introduce Tablet laptops to library customers
- 2) Increased customer acceptance of e-books
- 3) Additional laptops for the Libraries Laptop Loan Service

Project Assessment

- pre- and post course survey
- mid-semester check-in survey
- end of semester focus groups
- observation throughout semester by librarian and professor

Pre-Course Survey

Students:

- see themselves as skilled or very skilled at computer literacy, searching for information on the web and using software applications such as Word, Excel, and PowerPoint
- have used e-journals at least “several times” to “very often”
 - Comment: “You have no idea how difficult it is to find what I’m looking for with the search programs the Library offers for e-journals and articles.”

Pre-Course Survey

Students:

- have used e-books at least “several times” to “often”
- are split evenly on whether e-books are harder or easier to use
 - Comment: “I hate reading things on the computer, especially books, but it's so nice that I don't have to photocopy them or buy them. I appreciate it when profs put the books online as an alternative to making us buy them at the bookstore. If we have short readings, it's not to much of a problem for my eyes.”
 - Comment:” Hard to read but great when someone has checked out the paper copy.”

Pre-Course Survey

Students:

- have mixed feelings about technology in the classroom
 - Comment: “Technology itself is a neutral entity; it will not make bad teachers good, or vice versa. There are some specific skills (data manipulation, etc) that require computer use and these classes benefit from having the most current technology available.”
 - Comment: “Doesn't matter how much technology you use, if the professor is not clear you won't grasp the material.”
 - Comment: “I feel like any more technology would be annoying and restrict learning. Some of the most effective professors I have had simply write on the board.”

Mid-Semester Survey

- Frequency of use of Gateway laptop:
58% of respondents use daily. 42% of respondents use only rarely or occasionally.
- Frequency of use of tablet pen / writing functionality:
44% daily; 14% occasionally; 42% rarely or never
- Most frequently used applications:
Word and web browsers, followed by Excel and OneNote
- Frequency of need for technical support / trouble-shooting assistance:
85% never; 15% only once

Mid-Semester Survey

Comments regarding frequency of use:

- “I can write faster by good old pen and paper. Just need practice but I don’t feel taking notes of important quick lectures is a good time to practice.”
- “It is easier to use a pen & paper.”
- “I’m not the fastest typer so I tend not to bring it to class. I do however, transcribe most of my notes to the computer outside of class. Also I ride my bike to class & worry about the weight, crashing, rain, etc.”
- “I use it a lot to input pictures into my notes. I probably should use it instead of paper in class, but I get lots of use out of it at home.”

Mid-Semester Survey

Comments regarding benefits of having Gateway laptop:

- “I can take it to the Library and connect to the Internet and do homework without waiting for a computer.”
- “Tablet capability”
- “It’s much more versatile than a desktop and a lot more comfortable to use.”
- “Using the note with a powerpoint or word doc that a teacher uses in lecture to write my own notes on during class”
- “Newer software for Microsoft Office apps”

Mid-Semester Survey

Comments regarding problems or difficulties of having Gateway laptop:

- “I can’t use it at home because it won’t connect to my internet and I can’t get used to taking notes with it. Plus it gets [heavy?] taking it back and forth from home.”
- “Still can’t install a printer”
- “Can’t connect to the internet in a lot of places”
- “Too risky. \$2800 is too pricey for me to feel comfortable even having the loaner laptop.”
- “Not enough admin access”
- “The only problem is I won’t want to give it back!”

Preliminary Conclusions

Although the project is not yet complete, from observation and the responses documented above, the authors conclude that, in general, students are not taking advantage of the functionality and unique features of the Gateway laptop, particularly in the classroom setting, much less in the field.

- Additional opportunities for training or requirements/reasons for using the technology might have increased use.

It remains to be seen (from the post-course survey and focus groups) whether student use of e-books and other full-text online content has increased as a result of having the Gateway laptop for the semester.



The “embedded librarian” in the field on class visit
to riparian restoration site!

Questions / Comments?

Contact:

Jeanne L. Pfander

University of Arizona Libraries

pfanderj@u.library.arizona.edu

(520) 621-6375